Set-Top Box Configuration Pages

Administrator Guide

Version 0.14.x Revision 1
Access level: CONFIDENTIAL - NDA required

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This document describes components that undergo continual development. The information in this document is subject to change without notice at any time.

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Amino Communications (www.aminocom.com) supplies the AmiNET™ series of set-top boxes renowned for their low cost and reliability. The AmiNET range materially reduces service operators' capital expenditure, whilst offering the full range of specification required; MPEG2 and MPEG4 encoding standards, standard and high definition TV, personal video recording and home networking. The high performance coupled with the innovative design of Amino's set-top boxes, have brought the series industry accolades and the company a leading position within the IPTV market.

Approximately 700,000 AmiNET IPTV set-top boxes have been used in over 50 countries worldwide by more than 400 customers in commercial deployments and trials. The set-top boxes have also been sampled by another additional 700 customers. Amino Communications' principal customers are telecommunications, broadcast and hospitality service operators. Generally, AmiNET products are supplied with the IntAct™ IPTV software stack pre-loaded.

Amino Communications is a wholly owned subsidiary of Amino Technologies plc. listed on the London Stock Exchange AIM, symbol AMO. Amino is based near Cambridge, UK, and has offices in Atlanta Georgia and Hong Kong.

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Conventions

The following table describes common formatting conventions used in this document. Where other conventions apply to a particular section, they are described in the section they are used in.

Formatting	Usage
< ...>	Indicates a value that you need to replace with a system-specific value (except where used in HTML or XML examples, where it is used in tags, as normal).
[...]	Indicates optional parameters - for example in commands or functions.
... | ...	Indicates choices - for example where an input can take one of a number of values.
`code font`	Indicates input and output values (for example, at a command line), as well as function, configuration, parameter and file names.
bold text	Used for emphasis and for cross-references to other sections and other documents.
grey text	Commands or settings which are not in general use (for example, configuration settings that are reserved for Amino internal use).
underlined blue text	Cross-reference (this is a “clickable” hyperlink if you are vewing the document electronically).

1 Introduction

1.1 About this document

This document details how to use the Amino set-top box configuration pages, which provide customisation options for both administrators and end-users.

Structure

This document consists of the following chapters:

Chapter	Outline
Introduction	This chapter continues by introducing the configuration pages and giving an overview of their operation.
Getting started	Outlines general prerequisites and keyboard / remote control functionality for accessing the configuration pages.
Using the Management pages	Describes how to use the main functionality of the Management pages.
Management pages - configuration areas	Lists the settings that can be viewed or changed via the Management pages.
Using the preferences pages	Describes how to use the main functionality of the Preferences pages.
Preferences pages - configuration areas	Lists the settings that can be viewed or changed via the Preferences pages.

Quick start

If you have already used the configuration pages and just want a reminder of the settings you can change, go straight to Management pages - configuration areas on page 12 or Preferences pages - configuration areas on page 24.

1.2 About set-top box configuration pages

Configuration pages

Set-top boxes with browsers include HTML configuration pages, displayed on the television screen, that enable local access and editing of configuration areas. The pages are divided into an administrator area (Management pages) and user area (Preferences pages).

Preferences pages

The set-top box Preferences pages are a simple interface that enables users to change basic set-top box configuration areas such as language, subtitle and keyboard set-up. The pages are accessed locally via an Amino IR remote control (or keyboard). The Preferences pages are designed for use by end-users.

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Management pages

The set-top box Management pages are a simple interface that enables administrators to change set-top box configuration areas such as networking, channel list and browser set-up, as well as initiate basic operations such as rebooting and updating software. In addition, read-only access is available to areas such as version and set-top box identity settings. The pages are password-protected and accessed locally via an Amino IR keyboard (limited functionality is also supported via the remote control). Management pages allow access to advanced configuration functions and are designed for use by administrators rather than end-users.

How it works

A normal operation sequence for changing configuration via the set-top box Configuration pages is as follows:

Access configuration pages: The user presses a combination of keys on the keyboard to access the required pages (or via the remote control, for the Preferences pages). They are required to enter a password before they can access the Management pages.

Display page: The user navigates to the page that contains the settings they want to see.

Edit setting: Settings are displayed as either text fields or check boxes, which can be edited via the keyboard or remote control.

Save and verify change: The user clicks on a save button on the screen. For changes via the Management pages, another password is required to confirm the change.

Write changes: The set-top box executes the command. In most cases, this involves calling the libconfig command that edits the required setting in the relevant configuration area (e.g. NOR flash or `settings` file). If a reboot is required for the change to take effect the set-top box performs this.

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2 Getting started

2.1 Before you start

The instructions in this section assume that the set-top box you want to communicate with is powered and connected to the network.

To use the Management pages, you will need the following:

- An Amino IR keyboard (optionally also a remote control)
- You will need to know the password for the `mngread` and `mngwrite` user names on the set-top box. These are `leaves` and `snake` respectively if you haven't changed the defaults.
- If you are using a production set-top box and want to change identity settings, you will also need to know the password for the `identity` user. If the default hasn't been changed, this is `tiger`. Note that these settings and functionality are locked during manufacture, and access is read-only in most set-top boxes.

To use the Preferences pages, you will need the following:

- An Amino remote control or IR keyboard

2.2 Using the keyboard and remote control with the configuration pages

Although the actual functionality enabled is slightly different, the general ways of communicating with the Management and Preferences pages are similar, and the table below shows some of the remote control buttons and keyboard keys that enable important functionality:

Functionality	**Remote control**	**Keyboard**
Move around the items on the page.	arrow buttons	arrow keys
Select an option / press a button on the page.	**OK** button	**Enter** key
Delete text you have entered.	**LAST CH** button	**Back Space** key
Close Management/Preferences pages	**Home** button	**Escape** key
Display Preferences pages	**MENU** button	**Alt-P** key combination
Display Management pages		**Alt-M** combination

In general, the Management pages require the use of a keyboard; the Preferences pages are designed for use with just the remote control.

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3 Using the Management pages

3.1 Getting started

The Management pages are divided into separate areas according to configuration and control functionalities. Some areas allow you to view and edit configuration, some only allow you to view configuration and others allow you to perform software upgrades and reboot the set-top box.

When you first access the pages, a menu that lists the available areas is displayed. The settings available depend on the software build, but the menu can include the following items:

Area	Allows you to:
Browser Setup	View and edit browser configuration and change keyboard layout.
Channels	View and edit the channel URLs.
Proxy Setup	View and edit HTTP and HTTPs proxies.
Trusted Domains	View and edit settings for trusted domains.
Video Setup	View and edit video display and timeout settings.
Network Configuration	View and edit static address information; also view DHCP lease details.
Hardware Information	View set-top box hardware details.
Software Version	View set-top box software version.
Update Software	Initiate a software upgrade (multicast) or reflash.
Identity	View set-top box identity information. In production boxes, it is also possible to edit these settings; the settings are locked during manufacture.
Infra-Red Configuration	Pair the set-top box with an IR remote control. .
TVI Configuration	Set the protocol to use for controlling the television.
Reboot	Reboot the set-top box.

3.2 Navigation - using the keyboard

Once the Management pages are displayed, you can use either the keyboard or remote control to navigate around the pages and change settings. However, the Management pages require the use of a keyboard to display them and enter text, so the usage instructions here all specify what keys to press on the keyboard. It is also possible to use equivalent remote control options in many cases.

- Use the arrow keys to move up or down the menu page, then press the **Enter** key to select the page you want to view.

- Once the page you want is displayed, you can use the arrow keys to move around it, make changes if required and then move to the **Back to Main Menu** button and press **Enter** to return to the menu.

See also:

- Using the keyboard and remote control with the configuration pages **on page 7**

3.3 Viewing and editing configuration

To view configuration

1. Open the page for the configuration area you want to view. The current configuration settings are displayed.
2. To return to the menu page, move to the **Back to Main Menu** button (usually at the bottom of the page) and press **Enter**.

To change configuration settings

Note that not all configuration settings can be changed. If a page doesn't have a **Save Changes** button, then the settings are all read-only.

1. Open the page for the configuration area you want to view.
2. Use the arrow keys to move to the setting you want to change. As you move around the page, the current setting that you have currently selected is highlighted.
3. Make the changes you require:

- To change a text field, use the **Back Space** key to delete the current value, then type the new value.
- To change a check box, press the **Enter** key to check or uncheck the box.
- To select values from a drop-down list, press the **Enter** key to display the choices, use the up and down arrow keys to move to the value want, then press **Enter** again to select the new value.

4. When you are happy with your changes, move to the **Password** field and type the password. If you have not changed the default password, this is `snake`. Next, move to the **Save Changes** button, and press **Enter**. There will be a short delay while the changes are written to the set-top box's configuration (the set-top box's LED will flash during this time). Alternatively, you can use the **Reset** button to undo your changes to the page and return to the values set when you displayed the page.
5. If you saved your changes, a new page confirms the changes. If you didn't make any changes, the page doesn't change. From both pages, you can return to the main menu by navigating to the **Back to Main Menu** button and pressing **Enter**.

For many configuration settings, you will now need to reboot the set-top box for the changes to take effect.

See also:

- Management pages - configuration areas on page 12

3.4 Rebooting the set-top box

To reboot the set-top box via the Management pages

1. On the main menu, move to the **Reboot** option, then press the **Enter** button.
2. The set-top box reboots immediately.

3.5 Updating set-top box software

To initiate a software upgrade via the Management pages

Before you initiate a software upgrade, you will need to ensure that new software is available. In most cases, this means that the Multicast system must be set up, with the Multicast server transmitting appropriate new software images.

1. On the main menu, move to the **Update software** option, the press the **Enter** button. The **Update software** page is displayed.
2. You can either upgrade just the main software image or you can reflash the set-top box (i.e. delete the contents of the NAND flash and reload both a new bootstrap and a new software upgrade image). When the set-top box performs a software upgrade, it tests the new software and can revert to the old software if there is a problem. When the box reflashes, it wipes its current software before installing new software so it may not be able to revert to the old software if there is a problem.

   To upgrade the main set-top box image:

- In the **Address** field, enter the IP address for the multicast image (this is the IP address specified in the Multicast server configuration).
- In the **Port** field, enter the port for accessing the multicast image (again, as specified in the Multicast server configuration).
- In the **Password** field, enter the password. If you haven't changed the default, this is `snake`.
- Move to the **CLICK HERE** button and press **Enter** to start the upgrade.

  Note: Because of memory limitations, the AmiNET120 does not use the **Address** and **Port** values you enter; instead it uses values retrieved from the DHCP server (or set in configuration, if static DHCP values are used). You still need to specify dummy address and port values, though - otherwise the command forces a reflash instead of a software upgrade (see below).

   To reflash the set-top box:

- Leave the **Address** and **Port** fields blank.
- In the **Password** field, enter the password. If you haven't changed the default, this is `snake`.

3. Move to the **CLICK HERE** button and press **Enter** to start the upgrade or reflash.

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3.6 Closing the Management pages

To close the Management pages

- When you have finished, press the **Escape** key to close the Management pages and return to the main television display.

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4 Management pages - configuration areas

The list of configuration areas and settings that you can read and edit from the Management pages depends on the details of the software build. The sections that follow detail the main settings available. Each section relates to a page accessible from the main menu. For general information on changing configuration via the Management pages, see Viewing and editing configuration on page 9. For information on the areas that aren't related to configuration, see Rebooting the set-top box on page 10 and Updating set-top box software on page 10.

4.1 Browser Setup

This page enables you to view and edit browser configuration. The following settings are available:

Home page

Sets the home page. This is the URL for the page that the browser goes to when the Home key is pressed and when the set-top box has booted successfully. The URL entered must be in the format `http://<address>`.

Help page

Sets the help page. This is the URL for the page that the browser goes to when the Help key is pressed. The URL entered must be in the format `http://<address>`.

Use proxy

Enables or disables the use of HTTP, HTTPs and FTP proxy servers.

Accept Cookies

Enables or disables cookies. Enable this to allow cookies to be accepted (note that cookies can only be accepted where this is supported by the browser).

RAM Cache

Sets the amount of cached web content data that can be held in memory.

Keyboard Layout

Sets the layout for the IR keyboard.

4.2 Channels

The Channels page enables you to view and edit the channels list. The following settings are available:

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Channels 0-999

You can set up to 1000 channels, with the numbers 0 - 999. Click on a range to view/edit the channels with those numbers. For each channel, you will need to enter a URL in the format appropriate for the video server.

4.3 Proxy Setup

The Proxy Setup page enables you to view and edit configuration of HTTP, HTTPs and FTP proxies The following settings are available:

HTTP Proxy

The IP address and port for the proxy server for HTTP transactions. Enter these in the format `http://<host>:<port>`; for example: `http://123.4.5.67:1234`

Secure Proxy

The IP address and port for the proxy server for HTTPS transactions. Enter these in the format `http://<host>:<port>` for example: `http://123.4.5.67:1234`

FTP Proxy

The IP address and port for the proxy FTP server. Enter these in the format `http://<host>:<port>`; for example: `http://123.4.5.67:1234`

Don’t use proxy

List of URLs for sites that proxy should not be used for. Separate URLs with a comma.

4.4 Trusted Domains

The Trusted Domains page enables you to view or edit settings for trusted domains. The following settings are available:

Enable Trusted Domains

Enable or disable use of trusted domains. If the use of trusted domains is enabled, pages that use Javascript or Macrovision are checked against the list of trusted hosts. If trusted domains is disabled, Javascript and Macrovision calls are executed from any web page. You can specify multiple trusted domains; for each trusted domain, you will need to set a value for `URL`, `Macrovision` and `Javascript`. Note that if trusted domains is set, only URLs listed can execute Macrovision calls.

URL

Sets the URL for a trusted domain. The URL entered must be in the format `http://<address>`.

Macrovision

Enables or disables execution of Macrovision calls for the trusted domain defined by the associated URL.

Javascript

Enables or disables execution of Javascript calls for the trusted domain defined by the associated URL.

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4.5 Video Setup

The Video Setup page enables you to view and edit video display and timeout settings. The following settings are available:

Default Video Server

Sets the default video server type. The available options are:

```
BitBand
Concurrent
EONA
InfoValue
Kasenna MediaBase
nCube
Oracle
SeaChange
```

TV Standard

Sets the TV standard. Depending on the set-top box type, the available options are as follows:

Value	Example region
PAL-I	UK
PAL-M	Brazil
PAL-(c)N	Argentina
PAL-G	Europe
PAL-B	Australia, Ghana
PAL-H	Belgium
PAL-D	China (Note that this is not supported on the AmiNET103 or AmiNET109 platforms.)
NTSC-J	Japan
NTSC-M	USA

Output Format

Sets the output format of the set-top box.

The options that you can set will be some of the following, as appropriate for the formats supported by the set-top box type:

Value	Description
COMPOSITE + RGB	Enable composite video output with RGB (where available)
COMPOSITE	Enable composite video output without RGB
SVIDEO	Enable S-video output.
COMPOSITE + SVIDEO	Enable composite S-video output.
COMPOSITE + YPbPr	Enable composite component output.

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Value	Description
`YPbPr, CVBS + S-video`	Enable composite, component and S-video output.
`RGB, CVBS + S-video`	Enable composite, RGB and S-video output.
`SD`	Enable SD output (AmiNET120 only).
Choice of HD formats - e.g. `1080i, 720p, 480p`	Select HD formats (AmiNET120 only).

See Output format choices per set-top box on page 27for details of which option combinations are available for each type of set-top box.

Video Trick-play Scale

The default fast forward and rewind multiplier.

No RTSP event timeout

Number of seconds to wait for RTSP data after sending an RTSP play command, before a no-video event is raised. This must be in the range `0` - `30`, where `0` means that there will never be a timeout raised.

RTSP End of media event timeout

Number of seconds to wait when no more RTSP data is seen, before an end-of-media event is raised. This must be in the range `0` - `30`, where `0` means that there will never be a timeout raised.

No IGMP event timeout

Number of seconds to wait for a response to an IGMP join command, before a no-video event is raised. This must be in the range `0` - `30`, where `0` means that there will never be a timeout raised.

IGMP End of media event timeout

Number of seconds to wait when no more IGMP data is seen, before an end-of-media event is raised. This must be in the range `0` - `30`, where `0` means that there will never be a timeout raised.

No UDP event timeout

Number of seconds to wait after trying to connect to a UDP media stream, before a no-video event is raised. This must be in the range `0` - `30`, where `0` means that there will never be a timeout raised.

UDP End of media event timeout

Number of seconds to wait when no more UDP data is seen, before an end-of-media event is raised. This must be in the range `0` - `30`, where `0` means that there will never be a timeout raised.

Full screen mode

Enables or disables full screen mode.

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Left Margin

Sets the left browser margin, as a percentage of the graphics plane size (i.e. in the range `0 - 100`).

Right Margin

Sets the right browser margin, as a percentage of the graphics plane size (i.e. in the range `0 - 100`).

Top Margin

Sets the top browser margin, as a percentage of the graphics plane size (i.e. in the range `0 - 100`).

Bottom Margin

Sets the bottom browser margin, as a percentage of the graphics plane size (i.e. in the range `0 - 100`).

MPEG RF Audio Boost

Enables or disables an RF audio boost. This setting is only used on AmiNET110-BGA.

Dolby RF Audio Boost

Enables or disables an RF audio boost for Dolby audio. This setting is only used on AmiNET110-BGA.

4.6 Network Configuration

The following settings are available:

Ethernet Link

Sets the default speed for the main ethernet port to one of the following values:

```
Auto detect (this is the default)
10Mbit/s Half Duplex
10Mbit/s Full Duplex
100Mbit/s Half Duplex
100Mbit/s Full Duplex
```

DHCP Info

The drop-down list sets how the set-top box uses configuration information from a DHCP server. If the set-top box will not be getting all its network settings dynamically from the DHCP server, then you will need to ensure that the appropriate static settings are specified on this page (e.g. Multicast upgrade address and port).

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You can also select the **DHCP Info** button to display details of the current DHCP information received. A separate window displays values for the following:

```
IP address
Netmask
Gateway
Domain
DNS
Least Time
Renewal Time
Rebind Time
```

Hostname

Sets the hostname for the set-top box.

IP Address

Sets the static IP address for the set-top box. This is only needed if the set-top box doesn't retrieve its network settings from a DHCP server.

Netmask

Sets the netmask. This is only needed if the set-top box doesn't retrieve its network settings from a DHCP server.

Gateway

Sets the IP address for the gateway for the set-top box. This is only needed if the set-top box doesn't retrieve its network settings from a DHCP server.

Domain

Sets the domain for the set-top box. This is only needed if the set-top box doesn't retrieve its network settings from a DHCP server.

DNS

Sets the IP addresses for the domain name servers for the set-top box. This is only needed if the set-top box doesn't retrieve its network settings from a DHCP server.

Time Server

Sets the IP address for the time server that the set-top box connects to. This is only needed if the set-top box doesn't retrieve its time settings from a DHCP server.

NTP Client Timeout

Sets the NTP client timeout (in seconds).

Time Zone

Sets the time zone for the set-top box (Posix time-zone formats). This is only needed if the set-top box doesn't retrieve its network settings from a DHCP server.

Multicast Bootstrap Address

Sets an IP address for connecting to the Multicast server in `mboot` (multicast bootstrap) state.

This is used in the following situations:

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- As a fall-back bootstrap group when the group and port specified by the DHCP server cannot be found.
- For deployments where booting information is not held on a DHCP server.

Note that the set-top box will always try to use a value served from a DHCP server in preference to this statically defined value.

You will also need to specify a Multicast bootstrap port.

Multicast Bootstrap Port

Sets a port for connecting to the Multicast server in `mboot` (multicast bootstrap) state.

This is used in the following situations:

- As a fall-back bootstrap group when the group and port specified by the DHCP server cannot be found.
- For deployments where booting information is not held on a DHCP server.

Note that the set-top box will always try to use a value served from a DHCP server in preference to this statically defined value.

You will also need to specify a Multicast bootstrap address

Multicast Upgrade Address

Sets an IP address for connecting to the Multicast server in `upgrd` (multicast upgrade) state.

This is used in the following situation:

- For deployments where booting information is not held on a DHCP server.

Note that the set-top box will always try to use a value served from a DHCP server in preference to this statically defined value.

You will also need to specify a Multicast upgrade port.

Multicast Upgrade Port

Sets a port for connecting to the Multicast server in `upgrd` (multicast upgrade) state.

This is used in the following situation:

- For deployments where booting information is not held on a DHCP server.

Note that the set-top box will always try to use a value served from a DHCP server in preference to this statically defined value.

You will also need to specify a Multicast upgrade IP address.

Multicast Filesystem Address

Sets an IP address for connecting to the Multicast server in `fisys` (multicast filesystem) state.

This is used in the following situation:

- For deployments where booting information is not held on a DHCP server.

Note that the set-top box will always try to use a value served from a DHCP server in preference to this statically defined value.

You will also need to specify a Multicast File system port.

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Multicast Filesystem Port

Sets an IP address for connecting to the Multicast server in `fisys` (multicast filesystem) state.

This is used in the following situation:

- For deployments where booting information is not held on a DHCP server.

Note that the set-top box will always try to use a value served from a DHCP server in preference to this statically defined value.

You will also need to specify a Multicast File system address.

TFTP Server

Sets the static IP address to use for TFTP software upgrades. This is not needed for set-top boxes that use the Multicast upgrade system or use a BOOTP request for TFTP software upgrades.

TFTP Load File

Sets the static name of the download script to use in TFTP upgrades. This allows for a static download script to be request for downloading images from a TFTP server. The set-top box will try to use this value first, before making a DHCP request to try to obtain this information from a DHCP server. The script name must have no more than 14 characters.

This is not needed for set-top boxes that use the Multicast upgrade system.

Packet Ordering

Enables or disables packet ordering. If packet ordering is enabled, the set-top box buffers out of order packets.

PPP Username

Sets the user name to use (PPPoE builds only). This must be a string with a maximum of 20 characters.

PPP Password

Sets the password to use (PPPoE builds only). This must be a string with a maximum of 20 characters.

4.7 Hardware Information

This page enables you to view details of the set-top box hardware. The following settings are available:

Product

The AmiNET set-top box type.

Processor

The processor type.

SDRAM

The size of the SD RAM.

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Flash

The size of the flash.

Processor Speed

The processor speed.

Board Revision

The board revision number.

4.8 Software version

The Software version pop-up window enables you to view the version string for the software build.

4.9 Identity

The identity window enables you to view set-top box identity information. The following settings are available:

MAC Address

The set-top box MAC address. This value is locked during manufacture.

If you have a development set-top box on which the MAC address is still editable, you must not change it unless you are fully aware of the effects.

Serial Number

The set-top box serial number. This value is locked during manufacture.

If you have a development set-top box on which the serial number is still editable, you must not change it unless you are fully aware of the effects.

4.10 Infra-Red Configuration

The Infra-Red Configuration page enables you to pair the set-top box with a remote control. The following setting is available:

IR brand code

Sets the brand code used to pair the set-top box with a particular Amino remote control. The value must be in the range `000` - `015`, and must match the code on the remote control that you want to use to with this set-top box.

4.11 TVI Configuration

The TVI Configuration page enables you to set the protocol for the set-top box to use for controlling the television (only available on Hospitality platforms). The following setting is available:

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TVI protocol

Sets the protocol to use for controlling the television. The available options are:

```
LG
Panasonic/Sony
Philips
Zenith
```

5 Using the preferences pages

5.1 Getting started

The Preferences pages are divided into separate areas according to configuration and control functionalities you can view and edit.

When you first access the pages, a menu that lists the available areas is displayed. The actual settings available depend on the software build, but the menu can include the following items:

Area	Allows you to:
Keyboard settings	View and edit keyboard configuration.
TV system and audio settings	View and edit TV, video and audio language set-up.
Subtitle settings	View and edit subtitle configuration.
Exit preferences	Close the preferences pages

5.2 Navigation - using the remote control

Once the Preferences pages are open, you can use either the keyboard or remote control to navigate around the pages and change settings. The Preferences pages are designed to be able to be used with just the Amino remote control, so the usage instructions all specify what buttons to press on this remote control. It is also possible to use equivalent keyboard options.

- Use the arrow buttons to move up or down the menu page, then press the **OK** button to select the page you want to view.
- Once the page you want is displayed, you can use the arrow buttons to move around it, make changes if required and then move to the **Back to Main Menu** button and press **OK** to return to the menu.

See also:

- Using the keyboard and remote control with the configuration pages **on page 7**

5.3 Viewing and editing configuration

To view configuration

1. Open the page for the configuration area you want to view. The current configuration settings are displayed.
2. To return to the menu page, move to the **Back to Main Menu** button and press **OK**.

To change configuration settings

1. Open the page for the configuration area you want to view.

2. Use the arrow buttons to move to the setting you want to change. As you move around the page, the current setting that you have currently selected is highlighted.
3. Make the changes you require:

- To change a text field, use the **LAST CH** button to delete the current value, then type the new value.
- To change a check box, press the **OK** button to check or uncheck the box.
- To select values from a drop-down list, press the **OK** button to display the choices, use the up and down arrow buttons to move to the value want, then press **OK** again to select the new value.

4. When you are happy with your changes, move to the **Save Changes** button, and press **OK**. There will be a short delay while the changes are written to the set-top box's configuration (the set-top box's LED will flash during this time). Alternatively, you can use the **Reset** button to undo your changes to the page and return to the values set when you displayed the page.
5. If you saved your changes, a new page confirms the changes. If you didn't make any changes, the page doesn't change. From both pages, you can return to the main menu by moving to the **Back to Main Menu** button and pressing **OK**.

See also:

- Preferences pages - configuration areas on page 24

5.4 Closing the Preferences pages

To close the Preferences pages

- When you have finished, navigate to the main menu, then move to the **Exit preferences** option and press **OK**. Alternatively, press the **Home** button on the remote control.

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6 Preferences pages - configuration areas

The list of configuration areas and settings that you can read and edit from the Preferences pages depends on the details of the software build. The sections that follow detail the main settings available. Each section relates to a page accessible from the main menu. For general information on changing configuration via the Management pages, see Viewing and editing configuration on page 22.

6.1 Keyboard settings

This page enables you to view and edit keyboard configuration. The following settings are available:

Repeat delay

The length of time that a user holds a key down on an IR input device (e.g. the keyboard) in order to make it repeat, in centi-seconds. The options available depend on the set-top box type; for example, the values for the AmiNET110 are as follows:

Value	Description
1	16cs delay rate
2	32cs delay rate
3	64cs delay rate
4	96cs delay rate

Repeat rate

Controls the number of characters per second for IR input devices (e.g. the keyboard). Set an even-number value in the range `2 - 30` (rate in centi-seconds), or set `0` for no repeat.

Enable remote text entry

Enables or disables remote text entry via the remote control. If text entry is enabled, the user enters text by holding down the appropriate number key. Note that **Repeat Rate** must be set to `0` in order for remote text entry to be enabled.

6.2 TV system and audio settings

This page enables you to view and edit TV, video and audio language set-up. The following settings are available:

Frequency table

Sets the RF output frequency table (for platforms with RF output). The options are as follows:

Value	Description
BROADCAST	broadcast
CABLE	cable

RF Channel

Sets the RF channel (for platforms with RF output).

Use RF output

Enables or disables the RF output on platforms that have one.

Volume Minimum

Sets the minimum set-top box volume. This must be less than the maximum volume, and in the range `0` - `100` (percent).

Volume Maximum

Sets the maximum set-top box volume. This must be greater than the minimum volume, and in the range `0` - `100` (percent).

TV display format

Sets how video is formatted for the TV. The following options are available:

Value	Description
`Standard (4:3) Mode`	For televisions that can't do automatic aspect ratio switching, and you want the video image to fill the full 4:3 screen. In this mode, 4:3 content fits the screen correctly, and any 16:9 video content is cropped on the left and right sides.
`Letterbox Mode`	For televisions that can't do automatic aspect ratio switching, and you want to see the full 16:9 screen. In this mode, 4:3 content fits the screen correctly, and any 16:9 content is displayed in full, with black bars above and below it.
`Widescreen TV`	For televisions that can do automatic ratio switching. In this mode, the television switches between 4:3 and 16:9 depending on the video content, and full content is displayed for both.

Video output format

Sets the output format of the set-top box.

The options that you can set will be some of the following, as appropriate for the formats supported by the set-top box type:

Value	Description
`COMPOSITE + RGB`	Enable composite video output with RGB (where available)
`COMPOSITE`	Enable composite video output without RGB
`SVIDEO`	Enable S-video output.

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Value	Description
`COMPOSITE + SVIDEO`	Enable composite S-video output.
`COMPOSITE + YPbPr`	Enable composite component output.
`YPbPr, CVBS + S-video`	Enable composite, component and S-video output.
`RGB, CVBS + S-video`	Enable composite, RGB and S-video output.
`SD`	Enable SD output (AmiNET120 only).
Choice of HD formats - e.g. `1080i, 720p, 480p`	Select HD formats (AmiNET120 only).

See Output format choices per set-top box on page 27for details of which option combinations are available for each type of set-top box.

Audio - Primary language

Sets the primary language for an audio stream.

Audio - Secondary language

Sets the secondary language for an audio stream.

6.3 Subtitles

This page enables you to view and edit subtitle configuration. The following settings are available:

Subtitles (check box)

Enables or disables subtitle display.

Subtitle selection

Sets subtitles to `Standard` or `Hearing impaired`.

Primary language

Sets the primary language for the default subtitle display.

Secondary language

Sets the secondary language for the default subtitle display.

Appendix A:Output format choices per set-top box

The following table shows which video output format choices the Management pages and Preferences offer for each of the types of set-top box (on the **Video Setup** page of the Management pages, and on the **TV system and audio settings** page of the Preferences pages).

Set-top box type	Outpuf format choices offered
AmiNET103	COMPOSITE
AmiNET110 & AmiNET110H	COMPOSITE SVIDEO COMPOSITE + RGB COMPOSITE + SVIDEO COMPOSITE + YPbPr
AmiNET120	SD 1080i 720p 480p
AmiNET124	COMPOSITE COMPOSITE + RGB COMPOSITE + SVIDEO COMPOSITE + YPbPr (depends on board revision)
AmiNET125	COMPOSITE COMPOSITE + RGB COMPOSITE + SVIDEO COMPOSITE + YPbPr
AmiNET130 & AmiNET130H	COMPOSITE COMPOSITE + RGB COMPOSITE + SVIDEO COMPOSITE + YPbPr
AmiNET131	COMPOSITE COMPOSITE + RGB COMPOSITE + SVIDEO COMPOSITE + YPbPr

Set-top box type	Outpuf format choices offered
AmiNET500	YPbPr, CVBS + S-video RGB, CVBS + S-video

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Document history

Revision	Name	Date	Changes
0.13.x rev0	RPotts	29Aug 2006	First release of document.
0.14.x rev0	RPotts	20Oct 2006	General corrections: Added TVI Mngmt page, NTP client timeout & Netmask settings in Mngmt>Network page. Dolby RF Boost, MPEG RF Boost = A110-BGA only. Keyboard and remote usage table in ch.2 - close pages with Home key. Multicast Upgrade & Filesystem address and port in Mngmt>Network page - settings not used as fallback if no DHCP vals retrieved. Upgrading software section in Mngmt pages - added note on A120 (doesn't use input address and port vals). Applied current templates.
0.14.x rev1	RPotts	19Jan 2007	Clarifications in functionality descriptions in "Management pages - configuration areas" and "Preferences pages - configuration areas" sections. Template update for 2007.